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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,331	05/17/2001	Eric D. Schneider	ROXIP183	7833

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12/03/2004

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San Francisco, CA 94105

EXAMINER

PANNALA, SATHYANARAYA R

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SR

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Office Action Summary	Application No. 09/856,331	Applicant(s) SCHNEIDER, ERIC D.	
	Examiner Sathyanarayan Pannala	Art Unit 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's Amendment filed on 6/01/2004 has been entered with claims 1, 3, 5-6 as amended. In this Office Action the claims 1-6 and 9 are pending.

Drawings

2. The examiner approves the corrected drawings filed on 6/01/2004 of Figs. 3a-e.

Specification

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

5. Claims 1-6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stockman et al. (U.S. Patent 5,778,392) and in view of Cohen (US Patent 5,761,680).

6. Stockman rendered the independent claim 1 by the following:

“determining what pages should be swapped among the various allocations made by an operating system (OS), the file system mapping of the OS updated to reflect the swapped pages and a history of the original state prior to any update recorded by an engine, wherein the swaps performed by manipulation of the data structures of the engine and/or actually exchanging data on the disk where OS visible data is read and written but the original state of each altered page is not directly recorded in a historic log, but instead, a record is additionally logged of the locations of the swapped data so that an image of the OS visible data can be reconstructed prior to the time of the defragmentation by knowing what data to effectively re-swap and what OS mapping data to effectively restore” (at Fig. 3-4, col. 12, line 25, to col. 14, line 27). Stockman first loads the tile-reorganizing (swap pages) program is loaded into system memory (140). The program identifies and cooperates with the predefined goal tile map (349). As an example, the program instructs system processing unit to rearrange the tiles (swap pages) using an opportunistic vacancy-fill (OVF) method. The OFV method produces the tile arrangement in file storage (159). Stockman teaches step by step the procedure as: identifying reorganizing storage space (159),

subdividing the storage space into plurality of tile spaces (swap pages). Then identifying an already existing vacant space within reorganizing space. Moving into the identified vacancy space one or more source tiles from the identified files. Designating the source locations as vacancy space and then updating the directory structure (151) to reflect the new structure. After achieving the goal state the free space is considered as free space created or deleted as a result of the tile moves. Stockman explicitly does not teach defragmentation program is executed by the operating system. However, Cohen teaches WIN32 windows subsystem that executes the defragmentation application program (see at Fig. 1, col. 4, lines 28-31). Stockman and Cohen are combined as they teach disk defragmentation and to relate defragmentation application is a part of operating system. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention, to have combine the teachings of the cited references because Stockman's teachings would have allowed Cohen's method to enable an operating system to coherently access a swap file while the swap file is being defragmented (col. 2, lines 58-60).

7. As per dependent claim 2, Stockman teaches "the method is performed on a computer wherein a history of data is maintained such that the computer can be returned to a state of data from an earlier point in time" (at Fig. 3, col. 14, lines 56-61). Stockman teaches storing the original tile map (351) before storage space (159) reorganization.

8. As per dependent claim 3, Cohen teaches "including the step of incorporating desired close proximity information of various OS visible pages into an algorithm executed by the engine that determines what is actually swapped, in order to reasonable maintain physical close proximity of data allocated by the OS but physically re-mapped by the engine" (at Fig. 1, col. 4, lines 28-34). Cohen teaches disk defragmentation application program (engine) for WIN 32 subsystem that optimizes the performance of the disk drive.

9. As per dependent claim 4, Stockman teaches "the method is performed on a computer wherein a history of data is maintained such that the computer can be returned to a state of data from an earlier point in time" (at Fig. 1, col. 2, lines 33-44). Stockman teaches as if for some reason during or end of the tile reorganization (swap pages) the original tile map (351) could be renamed as the goal tile map and copy 349' as the original tile map and instruct the program to process.

10. Cohen anticipated independent claim 5 by the following:

"determining what pages should be swapped among the various allocations made by an operating system (OS), the file system mapping of the OS updated to reflect the swapped pages and a history of the original state prior to any update recorded by an engine, wherein the swaps are performed by one of manipulation of the engine's data structures and actually exchanging data on the disk where OS visible data is read and written, but the original state of each altered page is not directly recorded in a historic log, but instead, a record is additionally logged of the locations of the swapped data so that an image of the

OS visible data can be reconstructed prior to the time of the defragmentation by knowing what data to effectively re-swap and what OS mapping data to effectively restore” (at Fig. 3-4, col. 12, line 25, to col. 14, line 27). Stockman first loads the tile-reorganizing (swap pages) program is loaded into system memory (140). The program identifies and cooperates with the predefined goal tile map (349). As an example, the program instructs system-processing unit to rearrange the tiles (swap pages) using an opportunistic vacancy-fill (OVF) method. The OFV method produces the tile arrangement in file storage (159). Stockman teaches step by step the procedure as: identifying reorganizing storage space (159), subdividing the storage space into plurality of tile spaces (swap pages). Then identifying an already existing vacant space with in reorganizing space. Moving into the identified vacancy space one or more source tiles from the identified files. Designating the source locations as vacancy space and then updating the directory structure (151) to reflect the new structure. After achieving the goal state the free space is considered as free space created or deleted as a result of the tile moves. Stockman explicitly does not teach defragmentation program is executed by the operating system. However, Cohen teaches WIN32 windows subsystem that executes the defragmentation application program (see at Fig. 1, col. 4, lines 28-31). Stockman and Cohen are combined as they teach disk defragmentation and to relate defragmentation application is a part of operating system. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention, to have combine the teachings of the

cited references because Stockman's teachings would have allowed Cohen's method to enable an operating system to coherently access a swap file while the swap file is being defragmented (col. 2, lines 58-60).

11. Cohen anticipated independent claim 6 by the following:

"determining what pages should be swapped among the various allocations made by an operating system (OS), the file system mapping of the OS updated to reflect the swapped pages and a history of the original state prior to any update recorded by an engine, wherein the swaps are performed by one of manipulation of the data structures of the engine's and actually exchanging data on the disk where OS visible data is read and written, but the original state of each altered page is not directly recorded in a historic log, but instead, a record is additionally logged of the locations of the swapped data so that an image of the OS visible data can be reconstructed prior to the time of the defragmentation by knowing what data to effectively re-swap and what OS mapping data to effectively restore" (at Fig. 3-4, col. 12, line 25, to col. 14, line 27). Stockman first loads the tile-reorganizing (swap pages) program is loaded into system memory (140). The program identifies and cooperates with the predefined goal tile map (349). As an example, the program instructs system-processing unit to rearrange the tiles (swap pages) using an opportunistic vacancy-fill (OVF) method. The OFV method produces the tile arrangement in file storage (159). Stockman teaches step by step the procedure as: identifying reorganizing storage space (159), subdividing the storage space into plurality of tile spaces

(swap pages). Then identifying an already existing vacant space with in reorganizing space. Moving into the identified vacancy space one or more source tiles from the identified files. Designating the source locations as vacancy space and then updating the directory structure (151) to reflect the new structure. After achieving the goal state the free space is considered as free space created or deleted as a result of the tile moves. Stockman explicitly does not teach defragmentation program is executed by the operating system. However, Cohen teaches WIN32 windows subsystem that executes the defragmentation application program (see at Fig. 1, col. 4, lines 28-31). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate inputting relevant information to view image objects. Stockman and Cohen are combined as they teach disk defragmentation and to relate defragmentation application is a part of operating system. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention, to have combine the teachings of the cited references because Stockman's teachings would have allowed Cohen's method to enable an operating system to coherently access a swap file while the swap file is being defragmented (col. 2, lines 58-60).

"incorporating desired close proximity information of various OS visible pages into an algorithm executed by the engine that determines what is actually swapped, in order to reasonably maintain physical close proximity of data allocated by the OS but physically re-mapped by the engine" (at Fig. 1, col. 4,

lines 28-34). Cohen teaches disk defragmentation application program (engine) for WIN 32 subsystem that optimizes the performance of the disk drive.

12. As per dependent claim 9, Stockman teaches "the historical data is maintained by diverting writes to a different position on the disk so historical data remains in its original location" at Fig. 1,3, col. 14, lines 62-67. Stockman teaches that the storage (130') may further store a copy of (369) as well as a copy of (361) of the disk directory (151) before start of the reorganization. It is inherent that if the copies of every reorganization can be stored or retained for future use.

Response to Arguments

13. Applicant's arguments filed on 6/01/2004 have been fully considered but they are not persuasive as detailed below:

a) Applicant's argument stated as "Applicant wishes to direct the Examiner's attention to page 17 of the application as filed, where an abstract of the disclosure was included."

In response to the Applicant's argument, Examiner would like to remind as per 37 CFR 1.72(b), an abstract on a separate sheet is required. Examiner would like to inform that the Applicant never attached the page 17 with the disclosure.

b) Applicant's argument stated as "Stockman and Cohen each solves an entirely different problem from Applicant's invention."

In response to the Applicant's argument, Examiner respectfully disagrees because the current invention is not structurally different from the prior art and failed to show the evidence with respect to each claim and its limitations. Hence, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2167


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sathyanarayan Pannala whose telephone number is (571) 272-4115. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sathyanarayan Pannala
Examiner
Art Unit 2167

srp
November 28, 2004


GRETA ROBINSON
PRIMARY EXAMINER